1. Determine the **rate of change** for each direct variation.

   a) Brian's pay varies directly with the number of hours he works. He earns $68 in 8 h.

   b) The distance traveled by a train varies directly with time. The train traveled 315 km in 3.5 h.

   c) The number of words typed varies directly with time. Lee typed 180 words in 5 min.

2. Claude drives to his cottage, which is 287 km away, at a constant average speed. His distance-time data is given:

Time (h)	Distance (km)
0	0
0.5	41
1.0	82
2.0	164

   a) Determine the speed=rate of change.

   b) Write an equation that relates distance, d and time, t.

   c) Use the equation to find how far Claude has driven after 1.5 h.

   d) Use the equation to calculate how long the trip will take?
   (**Hint**: Read the original questions again for the distance)

3. In "Extreme Boards" the first mandatory program is the "Slalom". In this event, competitors must travel back and forth on a curved surface. The boarder can win points for performing trick moves at the top of each swing. The style score varies directly with the number of successful tricks.

Number of Tricks, n	Style Score, S
0	0
2	4
4	8
6	12

a) Determine the rate of change. Explain what it means.

b) Write an equation that relates Style Score, S, and number of tricks, n.

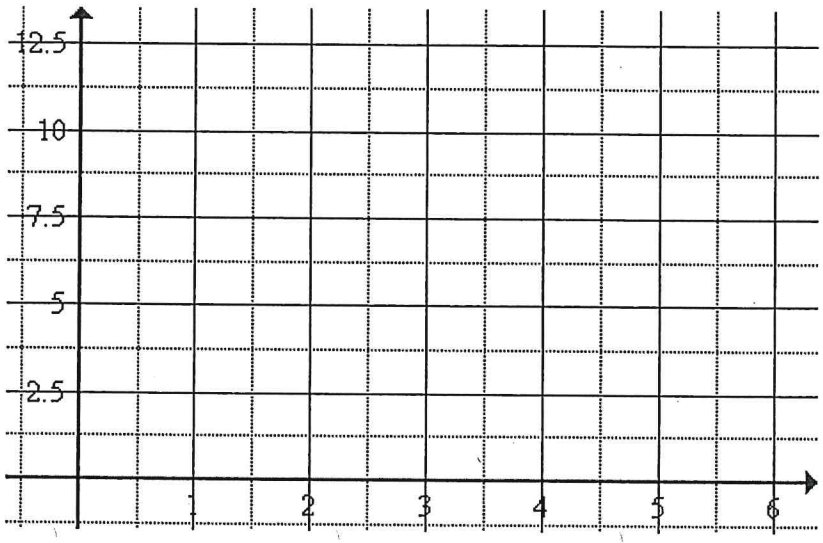
c) When Ally's turn comes, the top style score is 18.
Use the equation to determine how many tricks Ally must perform successfully to beat this score?

4. A parking lot charges $2.50/h.

a) Determine the cost for 0, 1, 2, and 3 hours. Place answers in the table of values.

Number of hours, h	Cost ($), C
0	
1	
2	
3	

b) Graph cost versus number of hours. Label fully.



c) Write an equation that relates the cost, C, and the number of hours, h.

d) Use the equation to determine the cost for 9 hours.

e) Use the equation to determine how long you could park for $37.50?

Answers:

1. a) $8.5/h b) 90 km/h c) 36 words/minute
2. a) 82 km/h b) d = 82t c) 123 km d) 3.5 h
3. a) 2 points/trick b) S = 2n c) 10 tricks
4. a) $0, $2.50, $5.00, $7.50 c) C=2.50h d) $22.50 e) 15 hours